

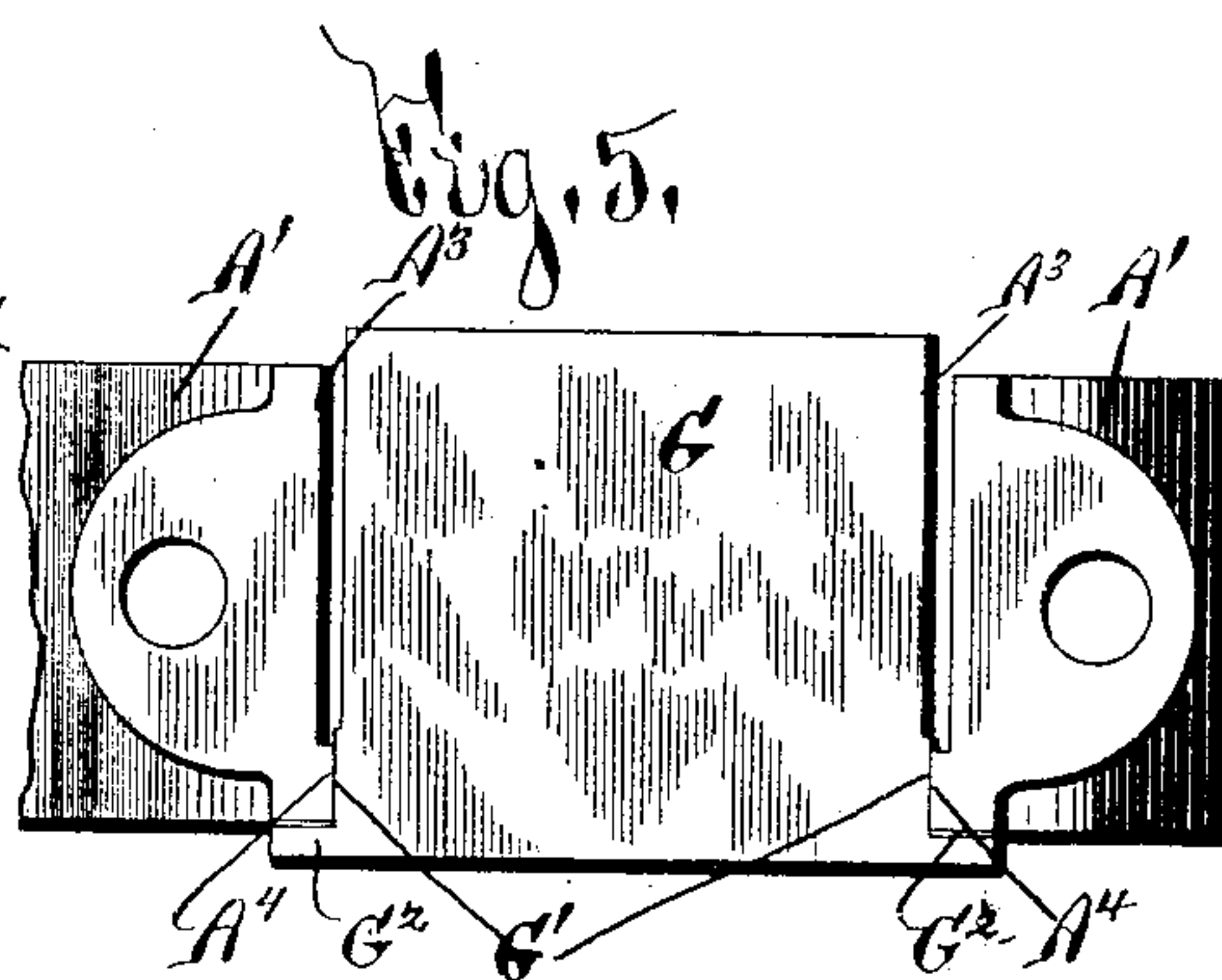
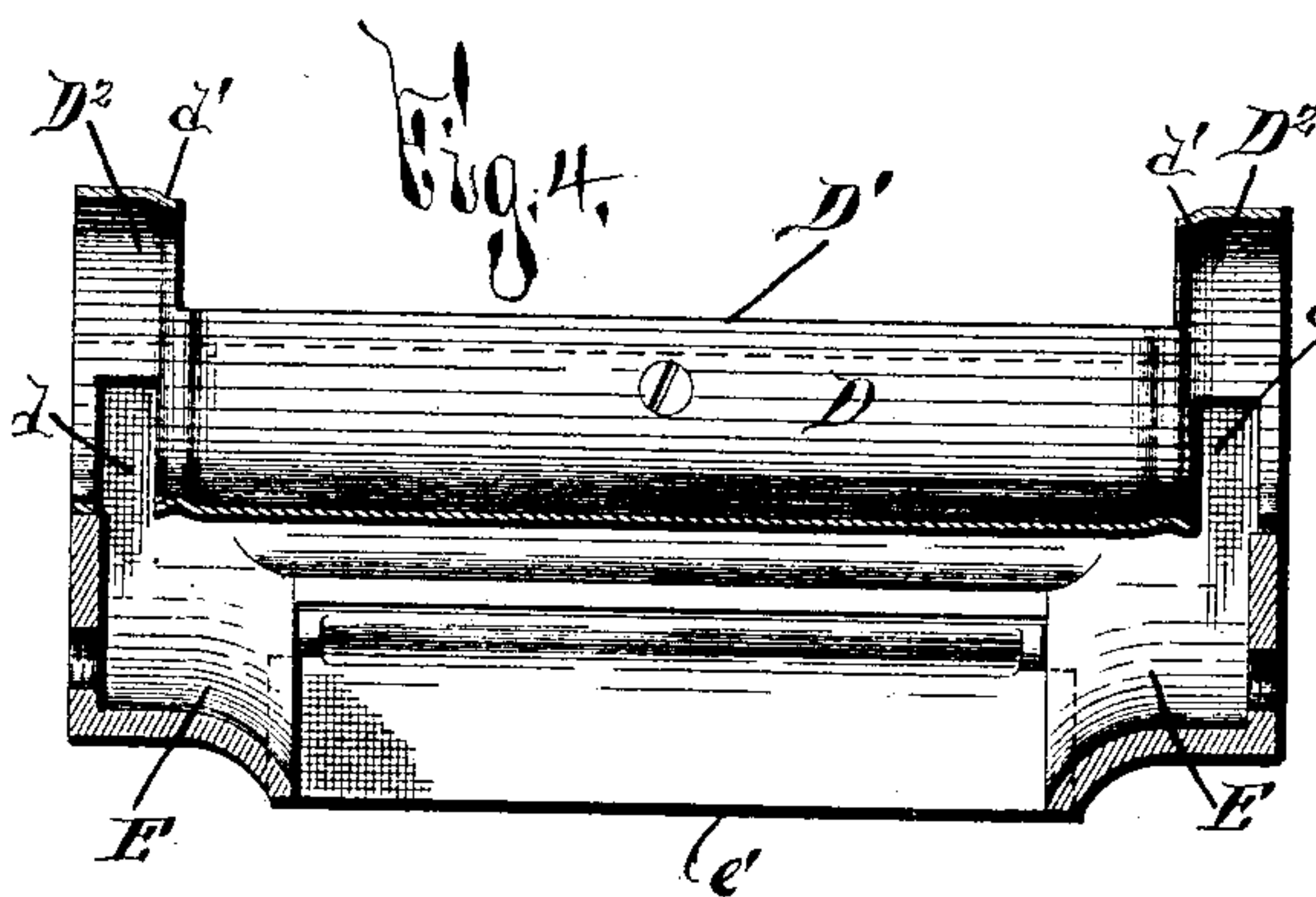
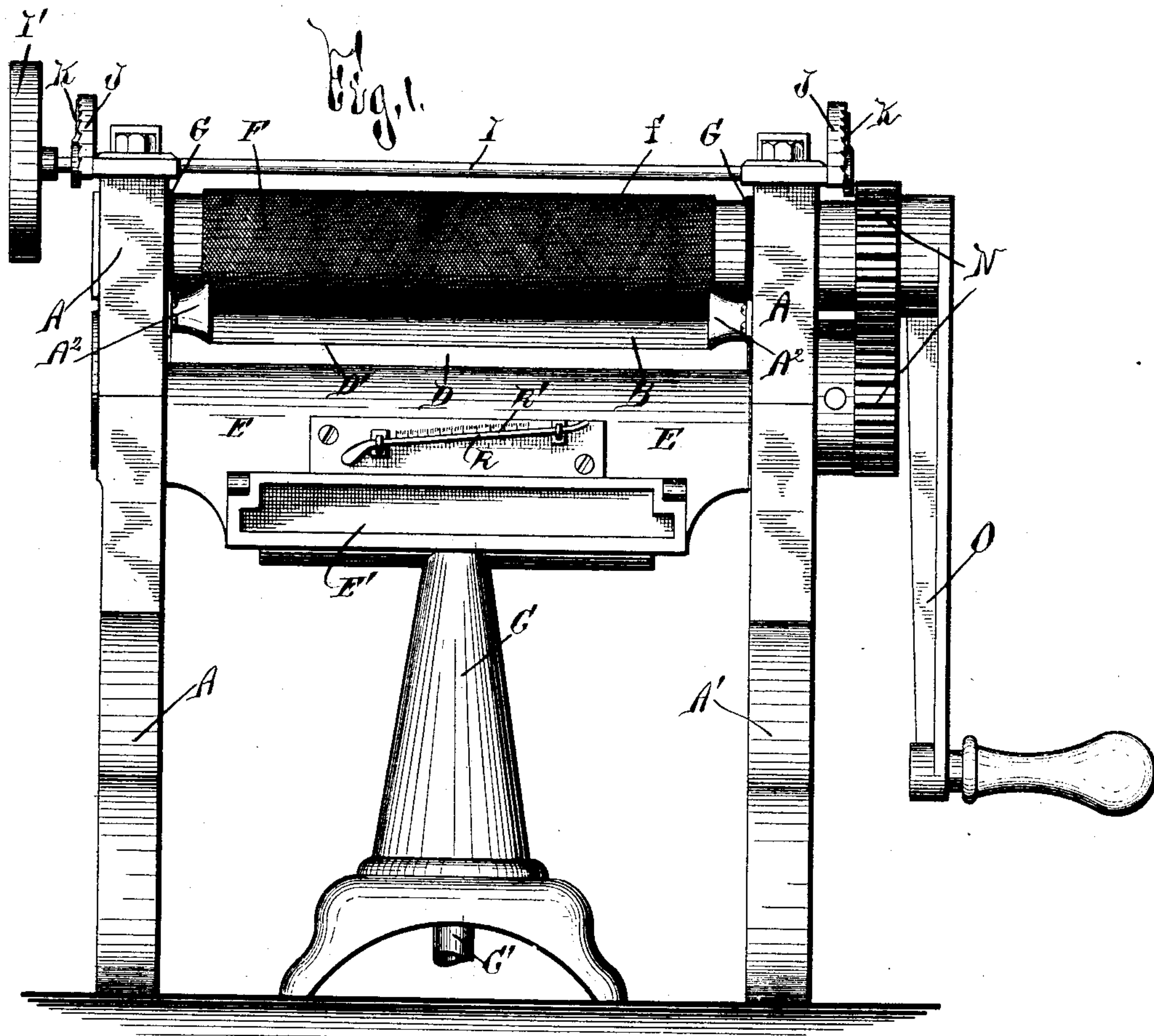
(No Model.)

3 Sheets—Sheet 1.

S. O. TUERK.
BURNISHER.

No. 427,937.

Patented May 13, 1890.



WITNESSES :

H. C. Chase.
A. P. Ranone

INVENTOR

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Samuel O. Turk

BY

BY *George W. Hay*
ATTORNEY

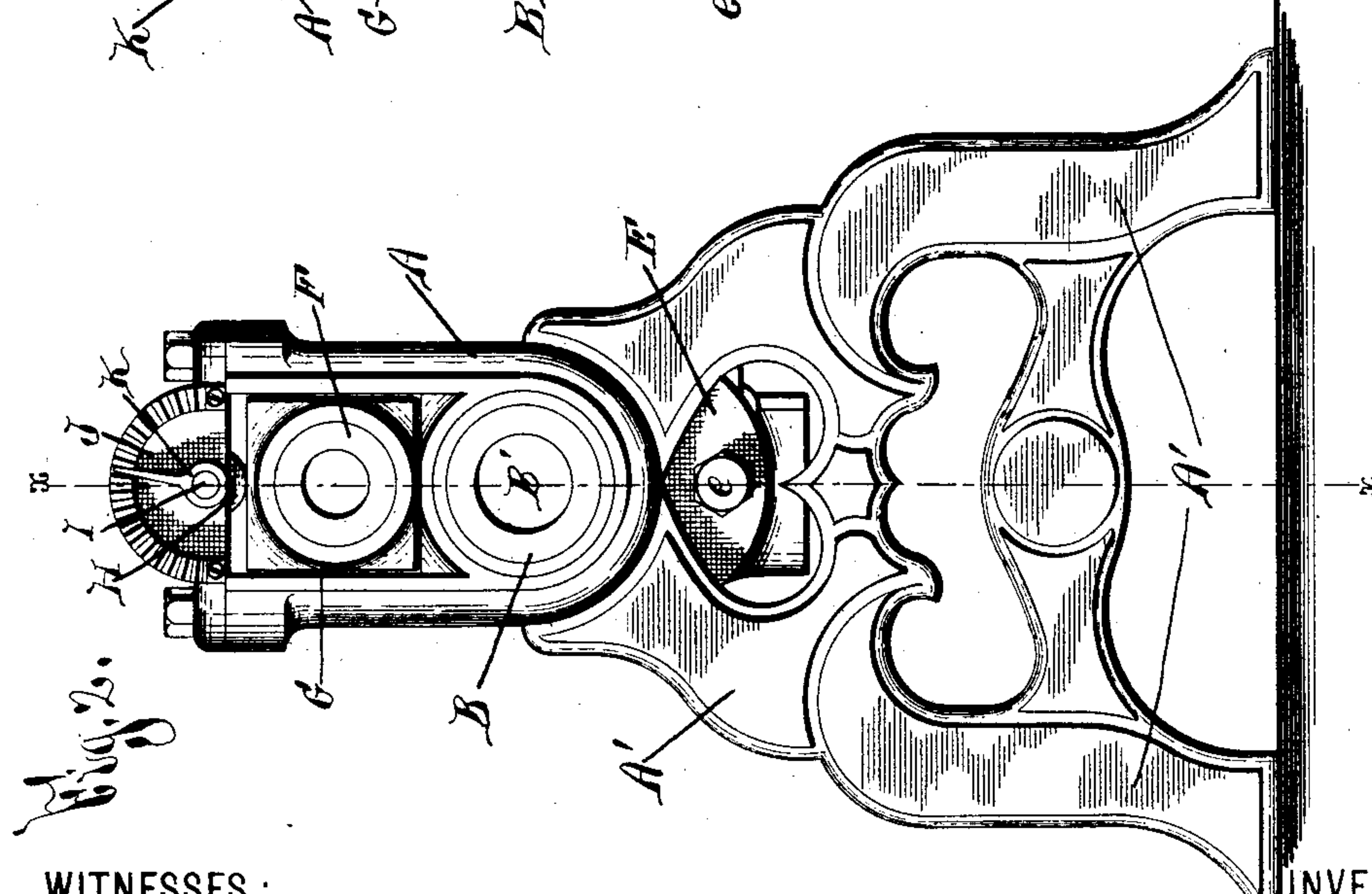
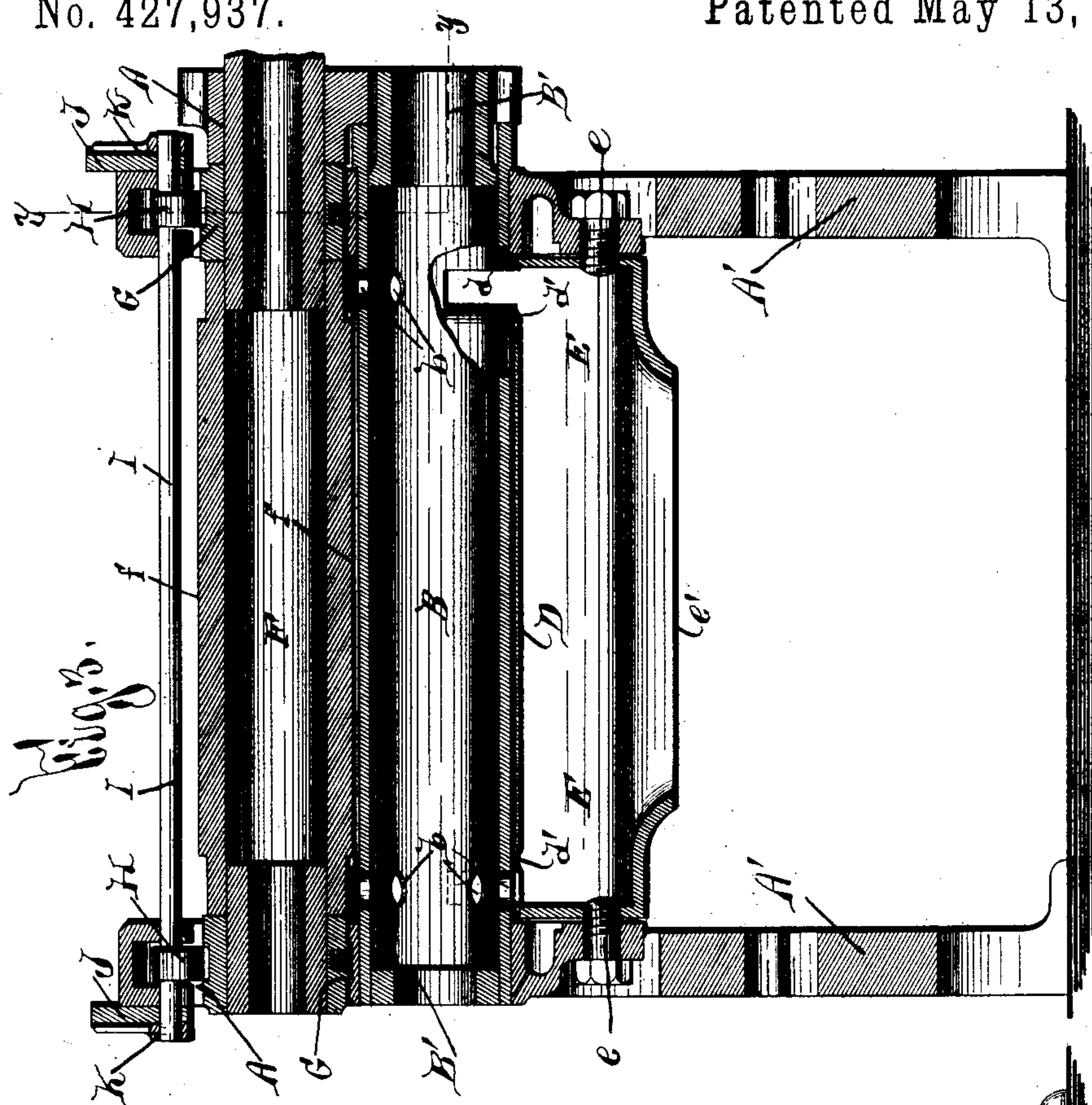
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3 Sheets—Sheet 2.

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BURNISHER.

No. 427,937.

Patented May 13, 1890.



WITNESSES :

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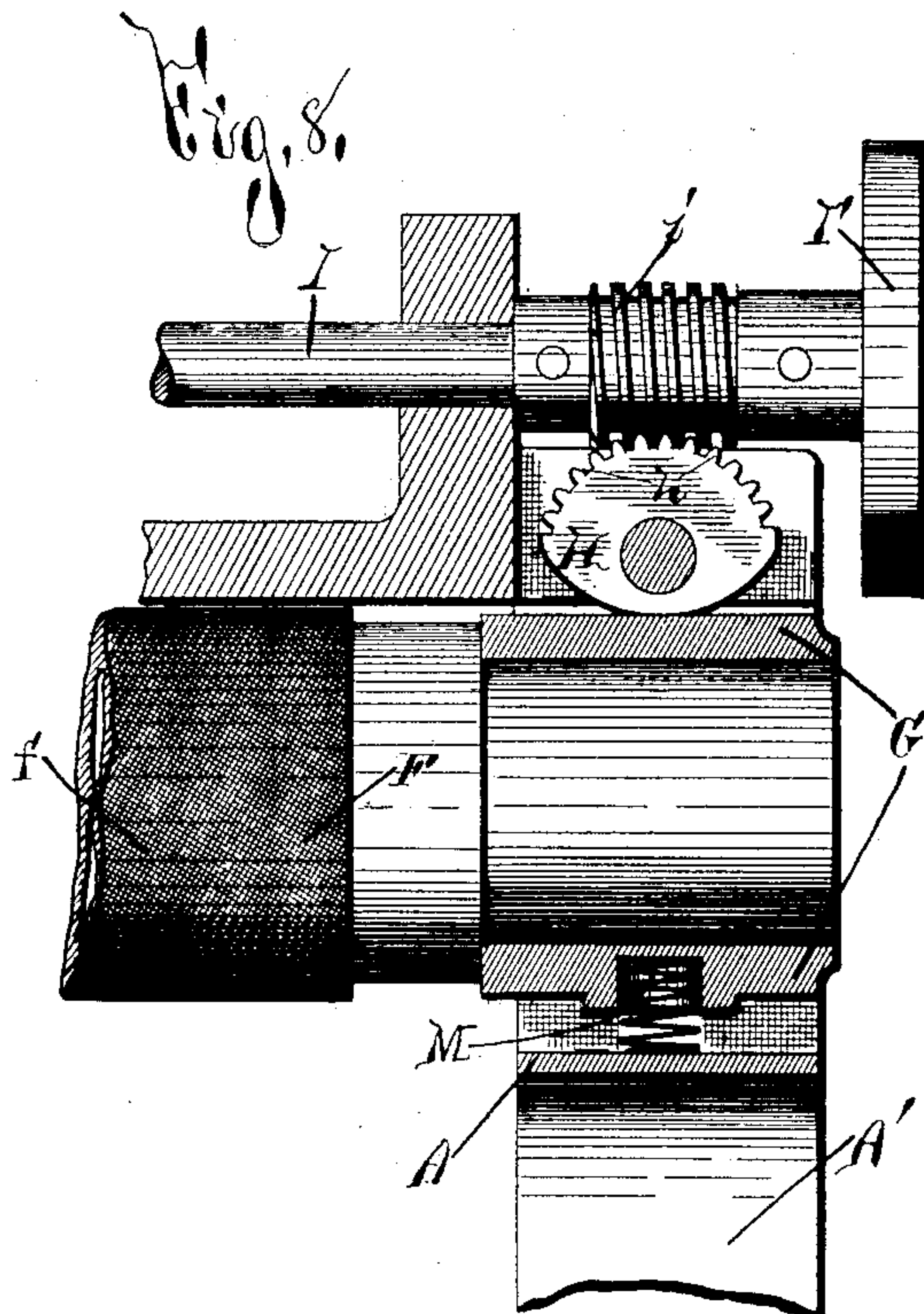
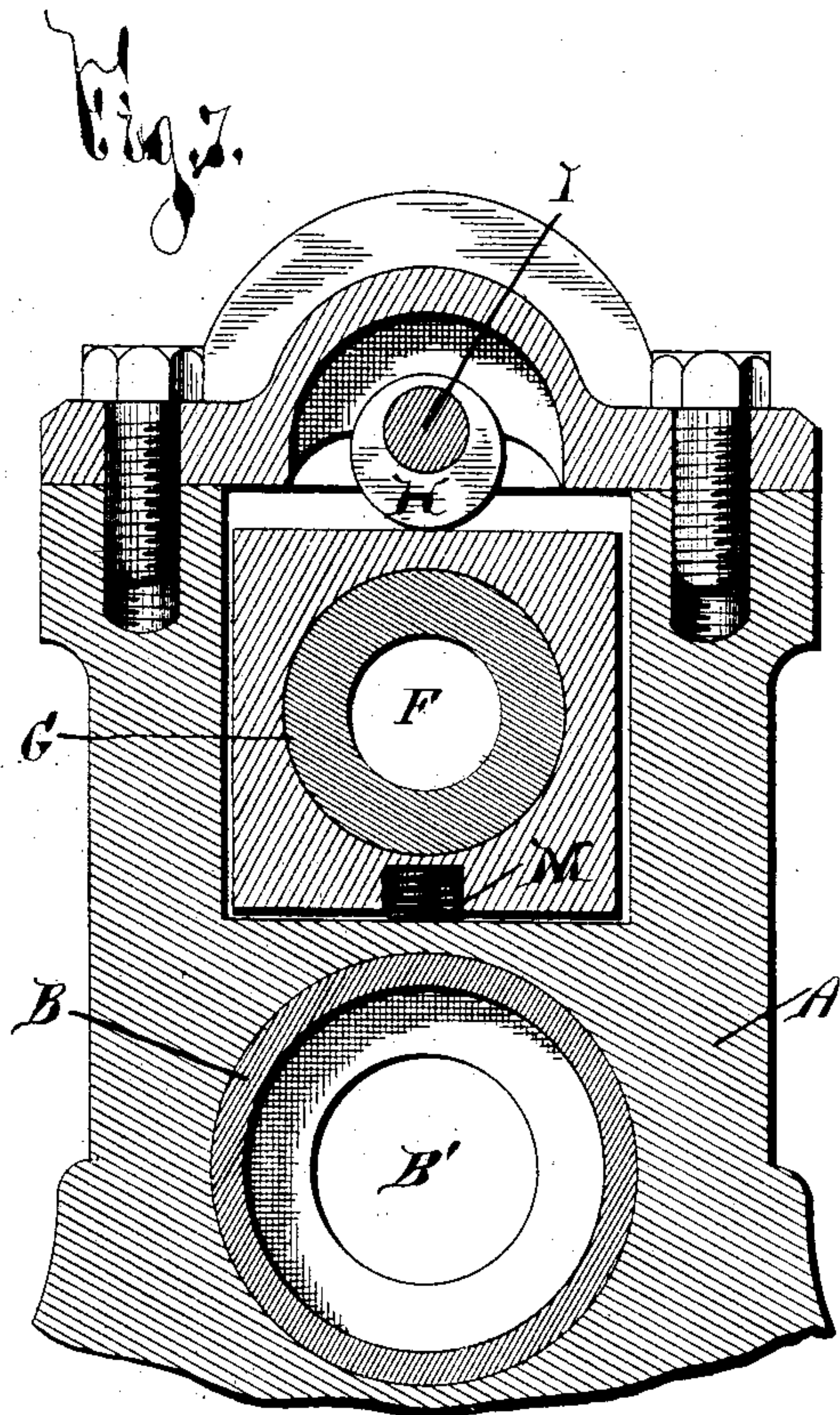
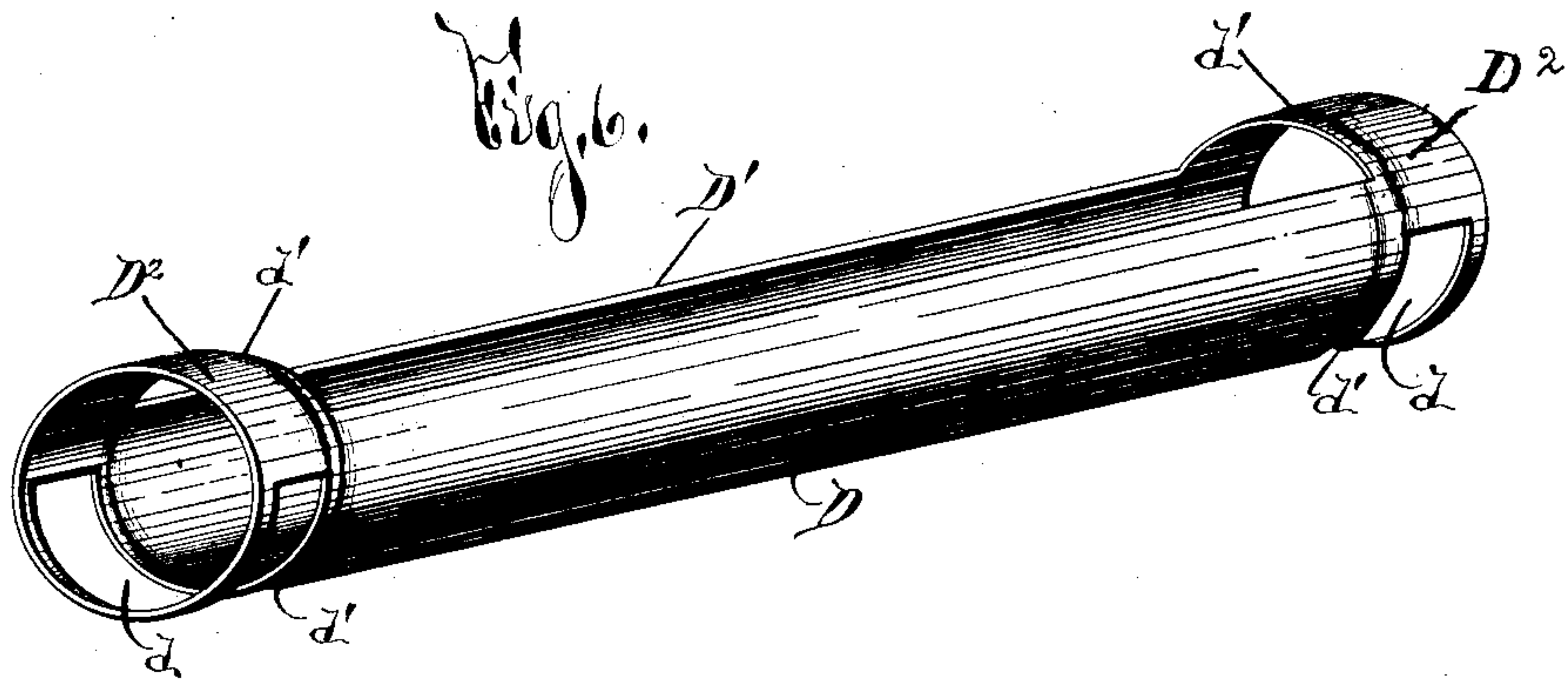
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3 Sheets—Sheet 3.

S. O. TUEBK.
BURNISHER.

No. 427,937.

Patented May 13, 1890.



WITNESSES:

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UNITED STATES PATENT OFFICE.

SAMUEL O. TUERK, OF SYRACUSE, ASSIGNOR TO THE ACME BURNISHING COMPANY, OF FULTON, NEW YORK.

BURNISHER.

SPECIFICATION forming part of Letters Patent No. 427,937, dated May 13, 1890.

Application filed October 7, 1889. Serial No. 326,207. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL O. TUERK, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and
5 useful Improvements in Burnishers, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in
10 burnishers, and has for its object the production of a simple and effective device which is cheaply and economically constructed and is more effective and easily heated than burnishers heretofore produced; and to this end
15 my invention consists, essentially, in a suitable feeding-roller, a rotary hollow burnishing-roller provided with inlet and outlet openings, whereby a continuous current of hot air is circulated therethrough, a heater or burner
20 for producing said heated current, and a jacket between said heater and burnishing-roller.

My invention also consists in the detail construction and arrangement of the parts,
25 all as hereinafter more particularly described, and pointed out in the claims.

In describing this invention reference is had to the accompanying drawings, forming a part of this specification, in which, like letters
30 indicating corresponding parts in all the views—

Figure 1 is a front elevation of my improved burnisher. Fig. 2 is a side elevation of the parts as illustrated in Fig. 1. Fig. 3 is
35 a longitudinal vertical section taken on line *x x*, Fig. 2. Fig. 4 is a longitudinal vertical section of the detached heating-chamber and the jacket for the burnisher-roller mounted in the top of said chamber. Fig. 5 represents
40 a plan view of the detached upper part of one leg of the frame and the journal-box guided therein. Fig. 6 is a perspective of the detached jacket for the burnishing-roller. Fig. 7 is a vertical section taken on line *y y*, Fig. 3, illustrating the adjusting device of the
45 burnishing-rollers; and Fig. 8 is a like sectional view illustrating a modified form of said adjusting device.

The frame A supporting the parts of my
50 improved burnisher may be of any desirable

form, size, or construction, and is here illustrated as a pair of legs A'.

Journalled in the legs A' is the burnishing-roller B, which is heated by means of a suitable lamp or burner C, (illustrated as the ordinary gas-burner,) connected to a gas-pipe C';
55 but it will be understood that if desired other forms of burners may be used. It is well known that in order to produce the best results the burnishing-roller must be quickly
60 heated and must also be protected from contact with the flame and soot of the lamp. It is also extremely desirable that all sweating of the roller shall be absolutely prevented. In my burnisher these requirements are com-
65 plied with by providing the burnishing-roller with outlet and inlet openings to allow the passage of a heated current therethrough and placing a jacket between the flame of the burner and said roller. The outlet-opening
70 B' in the roller may be suitably formed at the extremity thereof, but is preferably formed, as illustrated, by being placed directly in the end. The inlet-openings *b* for the heated
75 current are preferably arranged at suitable points on the periphery of the roller B between its extremities.

Incasing the burnishing-roller B is the jacket D, provided at the upper part thereof with the cut-out D', forming at either extremity the bands D², which are registered with
80 the inlet-openings *b* of said burnishing-roller. At the lower part of said bands D² are cut-outs *d*, which allow the heated air to pass into the roller through the inlet-openings *b* when-
85 ever by the rotation of the burnishing-roller said inlet-openings are registered with the openings *d*.

As best seen in Fig. 4, the jacket D is mounted in the upper part of the heating-chamber
90 E, which is secured in suitable manner, and preferably by bolts *e*, to the frame A. This chamber E is formed with inclosing sides and is opened at the top and bottom. When, however, the jacket is in operative position,
95 it will readily be seen that the top of this chamber is also inclosed, and as the opening *e'* at the bottom thereof closely fits the top of the burner, it will be understood that the entrance of cold air into the said chamber is
100

absolutely prevented. To further protect this heating-chamber from the entrance of cold air, I provide the door E', which swings upward to allow the entrance of the heater or burner C. It will thus be understood that when the parts are in operative position the heat from the burner strikes the central portion of the lower part of the jacket D, is then drawn to either extremity thereof, and then passes through the opening *d* and the inlet-openings *b* into the burnishing-roller. The heat is then distributed within said roller and passes out through openings B'. In order to insure the heating of said roller and prevent the discharge of the heated air before the utilization of the heat, the discharge-openings B' are preferably of smaller diameter than the interior of said hollow roller.

By reference to the drawings, Figs. 3 and 6, it will be noticed that on the inner side of the opening *d* the bands D² are provided with the inwardly-projecting rim *d'*. This rim is on the outside of the burnishing-face of said roller and prevents the said burnishing-face contacting with the lower part of the jacket, which would be liable to scratch the said burnishing-surface. Secured on opposite sides of the burnishing-faces of the roller B, and having their adjacent faces within the adjacent edges of the bands D², are the guards A², which prevent the contact with said bands of the article being burnished.

Mounted above the hollow heating-roller is the feeding mechanism for the burnisher, which preferably consists of a hollow roller F, formed with the knurled or other suitable frictional surface *f*. This roller F is preferably adjustable toward and away from the burnishing-roller B in order to adapt the machine to various thicknesses of articles to be burnished, and the adjustment is preferably secured by mounting the extremities of said roller in suitable boxes G and so arranging an adjusting device that said boxes are forced upward or downward.

In order to produce the best results, it is well known that the movement of both extremities of the adjustable roller must be uniform, and accordingly the cams H bearing upon either box are connected together by a rod or other connection I, whereby both are operated conjointly. These cams as preferably constructed consist of a disk eccentrically mounted upon the rod I, as illustrated in Figs. 3 and 7. In order to hold the said cams at any point of their adjustment, I provide the rack or notched plate J, with which engages the dog K, mounted upon the rod I. This dog is preferably formed of spring metal and is secured to said rod by being passed through an opening therein. The upper extremity is formed with a suitable engaging-face, (not illustrated,) which readily springs over the ratchet-teeth when the said rod is rotated by means of a suitable wheel I', and upon the stoppage of said rotation immediately springs into a notch of said disk J. These racks or notched

plates J and the spring-dogs K are preferably arranged at both extremities of the machine, and thereby absolutely prevent the pressure from forcing the cams from their adjusted position. In order to force upward the roller F when the cams are rotated backward, I interpose between the boxes G and the frame A springs M, which are illustrated as coil-springs, but may be flat or of other suitable shape.

One desirable feature of advantage is the manner in which the journal-boxes G are mounted. As shown in Fig. 5, the guideways A³ for said boxes are formed with the inward projections A⁴, of small width, in order to reduce to a minimum the necessary amount of planing. The boxes G are provided with like projections G', further reducing the planing, and are also provided with the projections G², which bear against the inner sides of the standards A'. This construction greatly reduces the amount of work in assembling the machine and increases its durability and practicability. It will be understood that suitable gearing N connects the rollers F and B, and that a suitable handle O is attached to the spindle of one of said gears in order to operate the burnisher.

As shown in Fig. 1, I mount upon my improved burnisher, and preferably upon the outside of the heating-chamber thereof, a thermometer R, which is arranged diagonally. By means of this thermometer I can gage and regulate the heat produced by the burner by observing the height to which the mercury rises along the scale R', which is of suitable construction for said purpose.

At Fig. 8 I have illustrated a modified form of the adjusting mechanism of the burnisher set forth in my pending application, Serial No. 332,203, in which the cam H is provided with a set of worm-shaped teeth *h*, engaged by a worm *i*, secured to the rod I. With the exception that it is slower the operation of this modification is the same as the preferable form illustrated in Fig. 7.

The operation of my invention will be readily perceived from the foregoing, and it will be understood that without departing from the spirit of my invention considerable change may be made in the relative construction and arrangement of the parts—as, for instance, one extremity of the roller might be closed and provided with inlet-openings and the opposite extremity be opened to allow the escape of the heated air. It will thus be understood that I do not limit my invention to its precise form and construction.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a burnisher, the combination of a hollow roller having one extremity open, an opening or openings on the periphery of said roller between the extremities thereof, and a burner for heating said roller, substantially as specified.

2. In a burnisher, the combination of a feed-

ing-roller, a hollow burnishing-roller adjacent to said feeding-roller, an inlet-opening on the periphery of said roller for admitting a heated current, an outlet-opening for withdrawing the heated current from said roller, and a burner or heater for heating said burnishing-roller, substantially as and for the purpose set forth.

3. In a burnisher, the combination of a hollow burnishing-roller having one extremity provided with an outlet-opening, an inlet-opening between the extremities of said roller, a jacket around said roller having its upper part cut away and formed with a portion at the top thereof covering the inlet-opening of the burnishing-roller, and a heater or burner for heating the burnishing-roller, substantially as specified.

4. In a burnisher, the combination of a heater or burner, a heating-chamber into which the heat is thrown, a jacket at the upper part of said chamber, an opening in said jacket, a hollow burnishing-roller having its lower part protected by said jacket, and an inlet and outlet opening in said burnishing-roller, substantially as described.

5. In a burnisher, the combination of a heater or burner, a heating-chamber above said burner, a jacket in the upper part of said chamber, a cut-out in the upper part of the jacket, an opening on either side of the center of said jacket, a hollow burnishing-roller mounted in said jacket, an inlet-opening in said roller adapted to be registered with the opening on either side of the center of said jacket, and an outlet-opening in said roller, substantially as and for the purpose set forth.

6. In a burnisher, the combination of a heater or burner, a heating-chamber into which the heat is thrown from said burner, a thermometer mounted upon said chamber, a hollow burnishing-roller provided with an inlet and outlet opening for allowing a passage of heated air therethrough, and a jacket between said burner and roller, substantially as specified.

7. In a burnisher, the combination of a hollow burnishing-roller, an inlet and outlet opening in said roller for allowing a passage of heated air therethrough, a heater or burner for producing a current of heated air, a jacket between said roller and burner, a cut-out provided in the upper part of said jacket to allow the action of the burnishing-roller, and an inwardly-projecting flange upon said jacket for preventing scratching of the burnishing-roller, substantially as and for the purpose specified.

8. In a burnisher, the combination of a hollow feeding-roller, a burnishing-roller adjacent to said feeding-roller, an inlet-opening in the burnishing-roller for allowing the entrance of heated air, and an opening in the extremity of said roller, said opening being of less diameter than the interior diameter of

the roller, and a burner or heater for producing a heated current, substantially as described.

9. In a burnisher, the combination of a burnishing-roller having one extremity provided with an outlet-opening, an inlet-opening between the extremities of said roller, a jacket around said roller having a cut-out in its upper part, a band at one extremity thereof for closing the said inlet-opening when engaged therewith, an opening in said band for allowing the entrance of heat into the burnishing-roller, guards on the inside of said band for preventing the tearing of the article to be burnished, and a lamp or heater for heating said burnishing-roller, substantially as described.

10. In a burnisher, the combination of a hollow feeding-roller, a burnishing-roller adjacent to said feeding-roller, an adjusting device, substantially as described, for approximating one of said rollers toward the other, an opening in the periphery of said burnishing-roller for admitting a current of heat, an outlet-opening for withdrawing said current, and a burner or heater for heating said burnishing-roller, substantially as and for the purpose described.

11. In a burnisher, the combination of a burner or heater, a burnishing-roller having an inlet and outlet opening for allowing the passage of a heated current therethrough, a feeding-roller mounted adjacent to said burnishing-roller, boxes for journaling one of said rollers, cams bearing upon said boxes for adjusting the same, and a connection between said cams for operating them both conjointly, substantially as described.

12. In a burnisher, the combination of a heater or burner, a burnishing-roller having an inlet and outlet opening for allowing the passage of a heated current therethrough, a feeding-roller mounted adjacent to said burnishing-roller, boxes for journaling one of said rollers, cams bearing upon said boxes, a connection between said cams for operating them conjointly, and a retaining device for holding the cams at any adjustment thereof, substantially as described.

13. In a burnisher, the combination of a heater or burner, a burnishing-roller having an inlet and outlet opening for allowing the passage of a heated current therethrough, a feeding-roller mounted adjacent to said burnishing-roller, boxes for journaling one of said rollers, cams bearing upon said boxes, a connection between said cams for operating them conjointly, a rack or notched plate, and a dog or catch for engaging said rack or notched plate and holding the cams in their adjustment, substantially as described.

14. In a burnisher, the combination of a feeding-roller, a burnishing-roller, boxes for journaling one of said rollers, rotary cams bearing upon said boxes, and a connection

between said cams for operating them conjointly, substantially as and for the purpose described.

15. In a burnisher, the combination of a
5 feeding-roller, a burnishing-roller, boxes for
journaling one of said rollers, rotary cams
bearing upon said boxes, a connection between
said cams for operating them conjointly,
a rack or notched plate, and a dog or catch
10 for engaging said rack or notched plate and
holding the cams in their adjustment, substantially
as and for the purpose specified.

In testimony whereof I have hereunto
signed my name, in the presence of two attesting
witnesses, at Syracuse, in the county of 15
Onondaga, in the State of New York, this 3d
day of October, 1889.

SAMUEL O. TUERK.

Witnesses:

CLARK H. NORTON,
A. E. PARSONS.